

Spotlight Session: Visual Tools

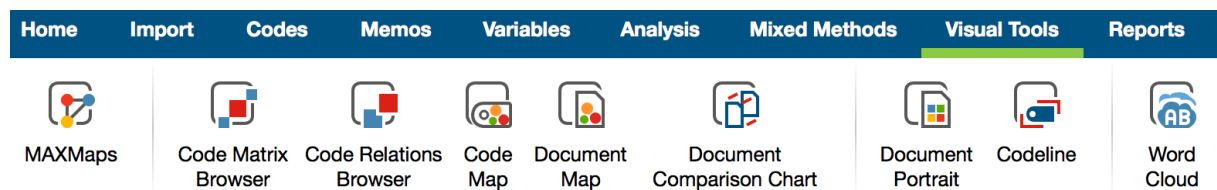
Use of Visual Tools

MAXQDA's Visual Tools can support your work in many ways:

- get an overview of your data
- identify patterns in the data
- develop and test theories and hypotheses
- interactive access to the data behind elements in visual tools
- export and prepare data and results for articles, reports, and posters

Access to the Visual Tools

Most of MAXQDA's visualization functions are located in the [VISUAL TOOLS](#) menu tab.



The Visual Tools menu tab

Tip: Hold the mouse over an icon in the menu tab to display a brief explanation of the tool.

With the exception of the Word Cloud and MAXMaps, using visual tools requires that you have already coded your data.

The visual tools differ according to how many documents they refer to, e.g. the Document Portrait and the Codeline can only be called for single documents. The Document Map, on the other hand, requires at least three documents. All other tools can be used for single as well as for multiple documents.

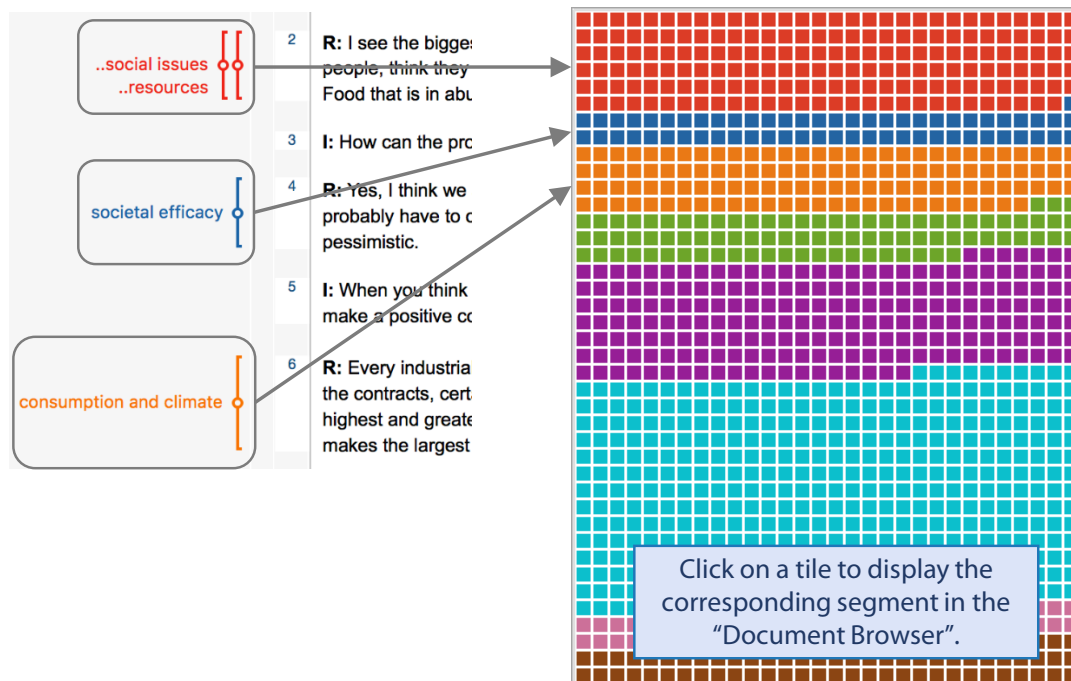
Visualizations for single documents

Document portrait: chronology of encodings as rectangular image

This tool represents the sequence of coded segments within a document by projecting them into a rectangular image. You can think of it as placing the code strips that are displayed next to a document one after the other in a large rectangle. The colors of the coding strips are

adopted in the Document Portrait, so for a meaningful representation it is necessary to assign meaningful colors to the codes.

Tip: Click on a tile to jump to the corresponding segment in the document of origin.



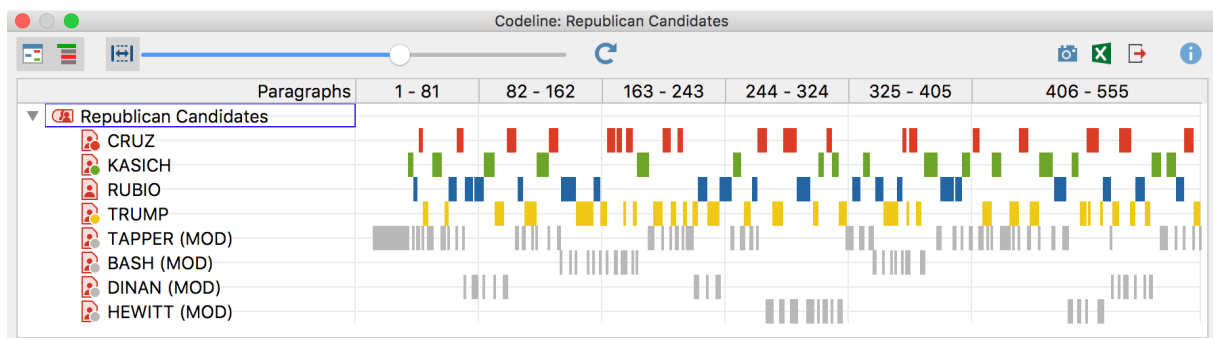
Coded segments in a document (left) are translated into the Document Portrait (right).

Source: Rädiker & Kuckartz (2020, p. 104)

Codeline: Sequence of codes within a document as a score

The Codeline is a case-oriented visualization. A text, for example, is represented as a continuous image of its coded segments, in the form of a matrix which rows are formed by the codes and which columns are formed by the paragraphs.

Tip: The Codeline is particularly useful for analyzing the course of themes and interactions in group interviews.



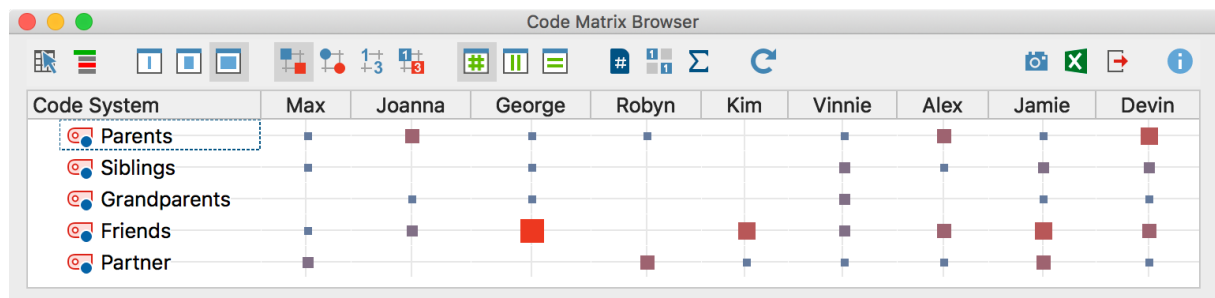
Codeline of a focus group (TV duel of US presidential candidates, 2016). The entire course has been compressed in width to fit in the window completely.

Visualizations for single or multiple documents

Code Matrix Browser: Compare coded segments per case

In the Code Matrix Browser, you can see at a glance which document has many or few segments for which code. Documents are displayed in the columns and codes in the rows. The larger the symbol on a node, the more segments in the respective document have been coded with the respective code. The documents in the columns can also be combined into document groups or document sets.

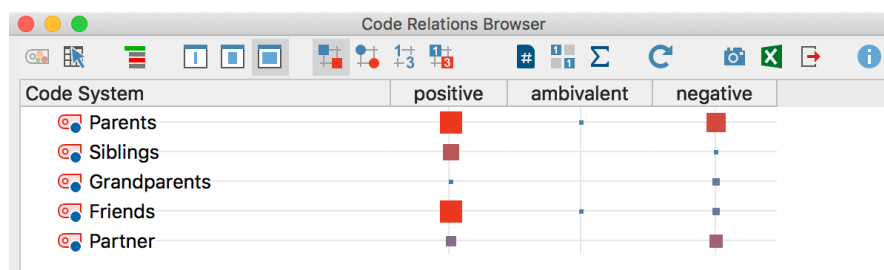
Tip: The Code Matrix Browser is also very suitable for creating time series and for longitudinal analyses if different points in time are shown in the columns.



Interactive display of the coded segments per case. Double-clicking on a node lists the associated coded segments.

Code Relations Browser: Co-occurrence of two codes

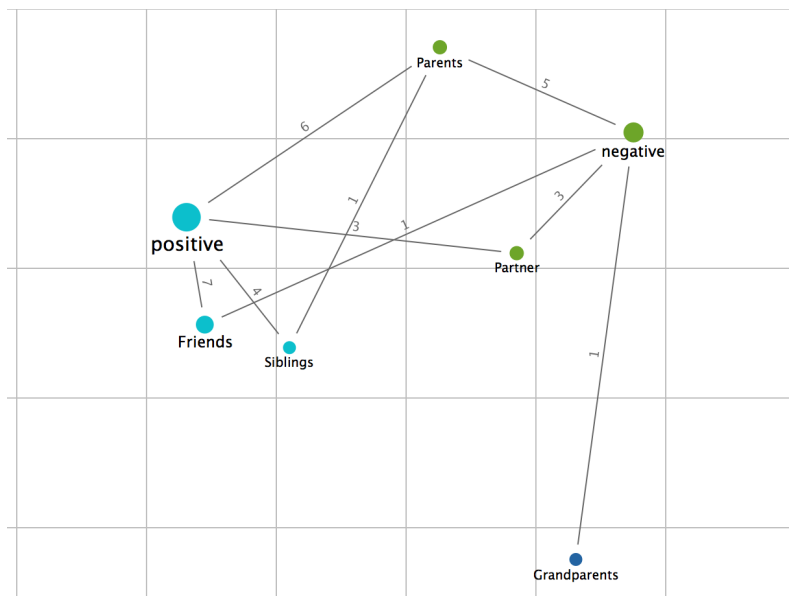
The Code Relations Browser visualizes which codes occur together in a document. Three analysis modes are distinguished: (1) overlap of codes in a segment, (2) proximity of codes within a defined distance, (3) assignment of codes anywhere in the document. The columns and rows of the Code Relations Browser are formed by codes. The larger a square is displayed on a node, the more "relations" the two associated codes have.



Interactive display of the co-occurrence of codes. Double-clicking on a node lists all segments where the associated two codes co-occur.

Code Map: Place codes on a surface according to similarity

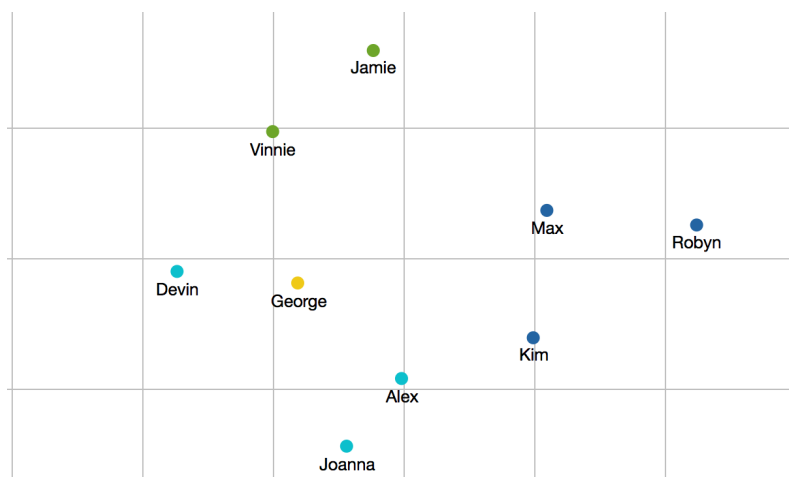
Based on the tabular representation in the Code Relations Browser, the codes are arranged on a surface. The more similar two codes were applied to the data, the closer they are to each other on the map. The circle sizes and font sizes represent the code frequencies. The colors of the codes can correspond to the colors in the “Document System” or to the calculated cluster memberships. The map can be transferred to MAXMaps and can be edited there.



The closer two codes are to each other, the more similar they were used in the data. Lines indicate the existence of a co-occurrence between the linked codes.

Document map: Place cases on a surface according to similarity

The Document Map represents the similarities of documents on a surface. The more similar two documents are with respect to the assignment of selected codes and variable values, the closer they are to each other on the map.

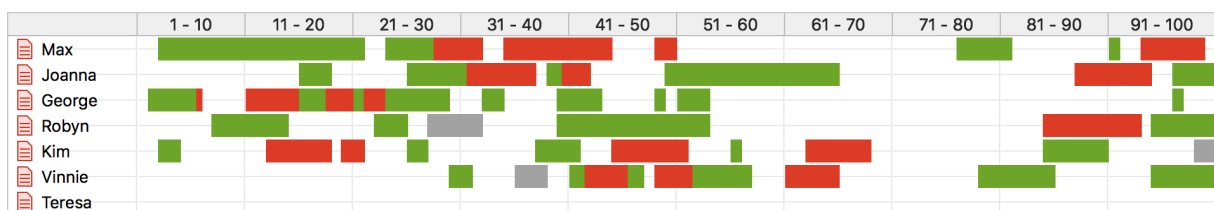


The documents were divided into groups and colored using a cluster analysis.

Document Comparison Chart: Contrast sequences of coded segments

This visual tool displays the codes for several text or table documents line by line for comparison purposes. This makes it possible to contrast the structure, i.e. the sequence of segments for several documents.

Tip: By default, the tool only makes sense for texts or tables with the same number of paragraphs or lines. However, by turning on the **STANDARDIZE DOCUMENT LENGTH** ☐ option, any documents can be compared with regard to their coded segments.

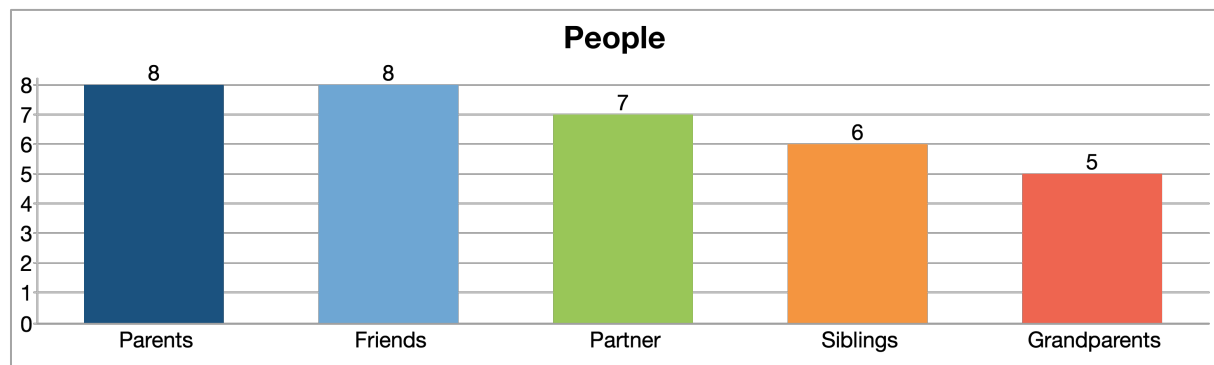


Document Comparison Chart to visualize the structure of texts standardized to length 100.

Code Frequencies and Subcode Statistics

At any time, you can create a table or chart that shows how many segments and how many documents have been coded with selected codes. Since the documents often correspond to the cases, this function can be used to quickly analyze how many cases a particular topic has been coded for.

Note: This feature is available in the **CODES** tab or in the context menu of a parent code in the "Code System" window. The feature **ANALYSIS > CODE FREQUENCIES** produces similar charts.



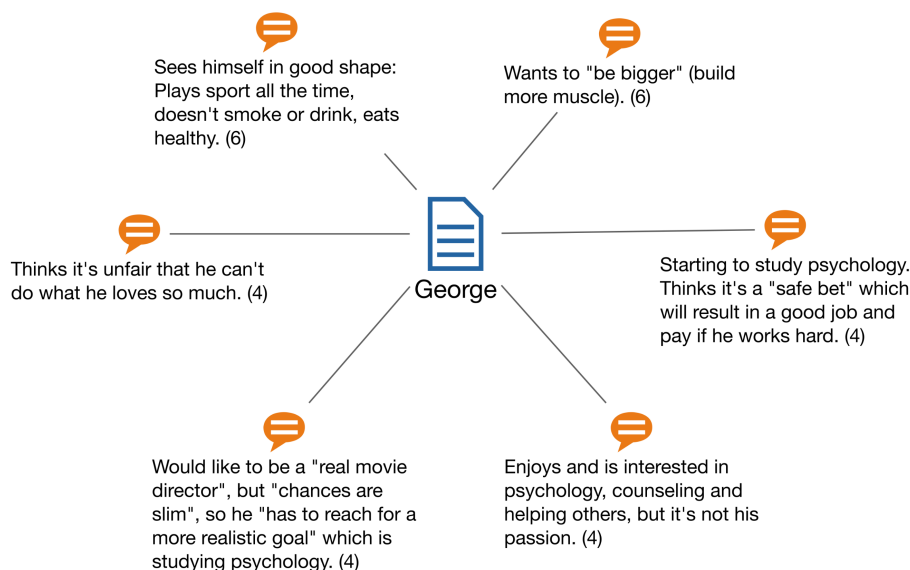
Subcode Statistics. Frequencies of selected codes are displayed in a bar chart.

MAXMaps: Create concept maps manually or using model templates

MAXMaps allows you to create concept maps in order to visualize, for example, relationships, causes and effects, or the concepts addressed in the research question. Primarily, MAXMaps is intended to visually display the various elements of MAXQDA (codes, documents, memos, coded segments) on a surface, a so-called map, and to relate them to each other.

Numerous model templates help you visualize the relationships of categories and subcategories and the relationships of single or multiple cases in just a few steps.

Single-Case Model (Paraphrases)



This automatically generated single-case model displays the paraphrases written for George in a circle. Clicking on a paraphrase leads to the paraphrased text.

Word cloud: Explore and display most frequent words

Word Clouds are a simple way to visualize the most frequent words contained in one or more documents. The size of the font of a word displayed is determined by its frequency. The toolbar offers a variety of display options. Call **WORD FREQUENCIES** to transfer non-sense words such as “the” or “and” to the stop list that contain words to be excluded.

The Word Cloud is suitable for both initial exploration of data and presentation of important findings.

Tip: The feature **CODES > CODE CLOUD** works like the Word Cloud but instead of creating a cloud from the texts, code names from the “Code System” window are visualized.



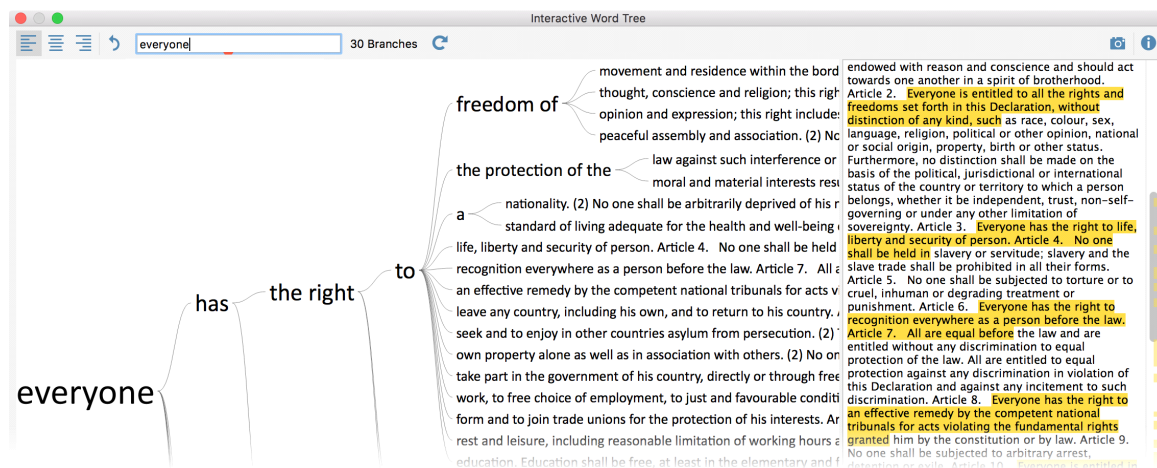
Word cloud of the 30 most frequent words in a paper on life satisfaction

More tips

- In most visual tools, a camera icon is available in the toolbar to copy the current view to the clipboard. This allows you to easily paste the created image from MAXQDA into a results report or presentation:

Copy to Clipboard

- On the [MAXDICTIO](#) tab, there is the [WORDTREE](#) function, with the help of which you can explore keywords and phrases in their context, taking into account their frequency. To use MAXDictio, you need a license for MAXQDA Plus or MAXQDA Analytics Pro.



WordTree for the UN Declaration of Human Rights

Literature on visualization in social research and the Visual Tools in MAXQDA

- Gizzi, M. C. & Rädiker, S. (2021). *The practice of qualitative data analysis: Research examples using MAXQDA*. MAXQDA Press. <https://doi.org/10.36192/978-3-948768058>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). SAGE.
- Kuckartz, S. & Rädiker, U. (2019). *Analyzing qualitative data with MAXQDA. Text, audio, and video*. Wiesbaden: Springer VS. <https://doi.org/10.1007/978-3-030-15671-8>
- Rädiker, S. & Kuckartz, U. (2020). *Focused analysis of qualitative interviews with MAXQDA. Step by step*. MAXQDA Press. <https://doi.org/10.36192/978-3-948768072>
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- Wheeldon, J. & Åhlberg, M. K. (2012): *Visualizing social science research. Maps, methods, & meaning*. SAGE.
- Henderson, S. & Segal, E. H. (2013): Visualizing qualitative data in evaluation research. In T. Azzam & S. Evergreen (Eds.), *Data visualization, part 1*. *New Directions for Evaluation*, 139, 53–71. <https://doi.org/10.1002/ev.20067>